

WHAT IS CLAIMED IS:

1-23 (Canceled)

24. (New) A circular knitting machine, comprising: a footing; a needle cylinder supported on said footing so as to be rotatable about an axis thereof, which is orientated substantially vertically, said needle cylinder having a diameter that is substantially comprised between 7 and 24 inches, and multiple axial slots that are formed on an outer lateral surface thereof, needles each of which is accommodated in a corresponding slot; actuation means for actuating the needles which interact with said needles during rotation of the needle cylinder about said axis for actuation of the needles along the corresponding axial slot of the needle cylinder so that the needles form knitting with at least one yarn dispensed to the needles at at least one drop or feed of the machine; and wherein said needle cylinder is rotationally actuatable about said axis in both directions of rotation and wherein said needle actuation means are adapted to allow the needles to form knitting in both directions of rotation of the needle cylinder about said axis at at least one drop or feed of the machine.

25. (New) The machine according to claim 24, wherein said needle cylinder is actuatable with an alternating rotary motion about said axis.

26. (New) The machine according to claim 24, comprising four drops or feeds that are mutually angularly spaced around the axis of the needle cylinder.

27. (New) The machine of claim 24, wherein said needle actuation means are adapted to allow the needles to form knitting in both directions of the needle cylinder about said axis at each of the drops or feeds.

28. (New) The machine of claim 25, wherein said needle actuation means comprise, for each needle, a sub-needle arranged in the corresponding axial slot of the needle cylinder below a corresponding needle; sub-needle actuation cams; said sub-needle being connected bilaterally to the corresponding needle for motion along the corresponding axial slot and

having, along an extension thereof, a sub-needle heel that is orientated radially with respect to the needle cylinder, said sub-needle being able to oscillate on a radial plane of the needle cylinder in order to pass from an active position, in which the sub-needle is extracted radially with said sub-needle heel from the corresponding axial slot of the needle cylinder so as to engage paths formed by the sub-needle actuation cams, which are arranged around the needle cylinder and are adapted to produce or allow a movement of said sub-needle along the corresponding axial slot of the needle cylinder, to an inactive position, in which the sub-needle is embedded with its heel in the corresponding slot of the needle cylinder so as to avoid engaging said sub-needle actuation cams; and further actuation means which act on said sub-needle for transition thereof from said active position to said inactive position and vice versa.

29. (New) The machine of claim 28, comprising needle actuation cams, said needle having, along an extension thereof, a needle heel that protrudes radially with respect to the needle cylinder and is adapted to engage paths formed by the needle actuation cams that are arranged around the needle cylinder and are adapted to produce or allow movement of the needle along the corresponding axial slot of the needle cylinder.

30. (New) The machine of claim 29, wherein said further actuation means for actuating the sub-needle comprise an actuation element that is arranged in each one of said axial slots below a corresponding sub-needle and is movable on command along the corresponding slot in order to interact with a lower end of the sub-needle and produce transition and retention of said sub-needle in said active position or in said inactive position.

31. (New) The machine of claim 30, wherein said actuation element comprises: an oscillating selector, which is provided, along an extension thereof, with at least one selector heel that protrudes radially with respect to the needle cylinder; selector actuation cams, said selector being able to oscillate on a radial plane with respect to the needle cylinder in order to pass

from an active position, in which it protrudes radially with the selector heel from the needle cylinder so as to engage paths defined by the selector actuation cams arranged around the needle cylinder and suitable to produce or allow a movement of the selector along the corresponding axial slot of the needle cylinder, to an inactive position, in which the selector is embedded with the selector heel in the corresponding axial slot of the needle cylinder so as to avoid engaging said selector actuation cams, and vice versa, and at least one selection device that acts on command on said selector for transition or retention thereof in said active position or in said inactive position, for each one of said drops or feeds.

32. (New) The machine of claim 31, wherein for each one of said drops or feeds four selection devices are provided, two for each direction of rotation of the needle cylinder about the axis thereof, said selection devices acting on command on said selector for transition or retention thereof in said active position or in said inactive position.

33. (New) The machine of claim 31, wherein a lower end of said sub-needle is shaped complementarily to an upper end of said actuation element in order to move said sub-needle from said inactive position to said active position or vice versa as a consequence of an axial movement of said actuation element along the corresponding axial slot of the needle cylinder.

34. (New) The machine of claim 33, wherein the lower end of said sub-needle is forked, with a first prong that protrudes downward with respect to a second prong; said first prong lying closer to the bottom of the corresponding axial slot of the needle cylinder than said second prong; said first prong being engageable by an upper portion of said actuation element to move or stably retain said sub-needle in the inactive position, and said second prong being engageable by said upper portion of said actuation element to move or stably retain said sub-needle in the active position.

35. (New) The machine of claim 34, wherein said upper portion of said actuation element is insertable, in motion of said actuation element

along the corresponding axial slot of the needle cylinder, between the two prongs of the fork of the lower end of said sub-needle.

36. (New) The machine of claim 35, wherein said upper portion of said actuation element has, in a region that is spaced from an upper end of
5 said upper portion, a first region that forms an inclined plane with respect to a longitudinal extension of the corresponding axial slot of the needle cylinder and is adapted to engage a corresponding region that forms an inclined plane and is provided at a lower end of said first prong of the fork of the sub-needle for transition of said sub-needle from said active position
10 to said inactive position as a consequence of a downward movement of said actuation element along the corresponding axial slot of the needle cylinder.

37. (New) The machine of claim 36, wherein the upper portion of said actuation element has, at the upper end thereof, a second region that forms an inclined plane with respect to the longitudinal extension of the
15 corresponding axial slot of the needle cylinder and is adapted to engage a corresponding region that forms an inclined plane and is provided at a lower end of said second prong of the fork of the sub-needle for the transition of said sub-needle from said inactive position to said active position as a consequence of an upward movement of said actuation element along the
20 corresponding axial slot of the needle cylinder.

38. (New) The machine of claim 37, wherein said actuation element comprises, in addition to said selector, a pusher that is accommodated so that as to be slideable in the corresponding axial slot of the needle cylinder between said selector and said sub-needle, said upper portion of the
25 actuation element that is adapted to engage the lower end of said sub-needle being constituted by an upper portion of said pusher.

39. (New) The machine of claim 38, comprising pusher actuation cams, said pusher having, along an extension thereof, a pusher heel that protrudes from the corresponding axial slot of the needle cylinder and is
30 adapted to engage paths that are defined by the pusher actuation cams

arranged around an outer lateral surface of the needle cylinder and are shaped so as to produce a motion of said pushers along the corresponding axial slots of the needle cylinder.

40. (New) The machine of claim 31, wherein said sub-needle actuation
5 cams comprise lowering cams to produce the downward movement of the needles after engaging the yarn at each one of said drops or feeds.

41. (New) The machine of claim 31, wherein the paths defined by said selector actuation cams have, ahead of each drop or feed, a first rising portion and a second rising portion, a peak of the second rising portion being
10 higher than a peak of said first rising portion for upward movement of the needles respectively to a tuck-stitch lifting level and to a drop-stitch lifting level for an overlying needle, at least one selection device being interposed between said first rising portion and said second rising portion.

42. (New) The machine of claim 41, comprising two selection devices
15 arranged sequentially between said first rising portion and said second rising portion of the selector actuation cams that are useable selectively depending on a direction of rotation of the needle cylinder about said axis.

43. (New) The machine of claim 31, wherein a bottom of each axial slot of the needle cylinder has a portion that is adapted to be engaged by said
20 sub-needle at least in its fully lifted condition in order to retain said sub-needle in its active position.

44. (New) The machine of claim 31, wherein said needle actuation cams, said sub-needle actuation cams, said pusher actuation cams and said selector actuation cams have configurations and arrangements that are
25 symmetrical with respect to a radial plane of the needle cylinder that passes through a drop or feed.

45. (New) The machine of claim 44, wherein said selection devices are arranged at a same vertical elevation.

46. (New) The machine of claim 45, wherein said selection devices
30 are arranged symmetrically with respect to a radial plane of the needle

cylinder that passes through a drop or feed.